

# Lifetime Benefits and Costs of Diverting Substance Abusing Offenders from State Prison

Presented by

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# Background (I)

- Much of prison inmate population abuses substances, but few get treatment
  - Approximately 50% of state prisoners meet the criteria for a diagnosis of drug abuse or dependence
  - At most, 10% of state inmates surveyed received clinical drug treatment during current incarceration
- Inmates who regularly use drugs have higher criminal recidivism rates than other inmates
- Research Question
  - What are the lifetime benefits and costs of diverting substance-abusing arrestees to treatment?

# Background (II)

- Cost-benefit analyses of prison drug treatment and aftercare. Examples:
  - McCollister, French, Inciardi, Butzin, Martin, Hooper (2003)
  - McCollister, French, Prendergast, Hall, & Sacks (2004)
- Economic analyses of diversion and drug courts. Examples:
  - Carey & Finigan (2004)
  - Cowell et al. (2004)
  - Zarkin et al. (2005a)
- A lifetime perspective captures the chronic nature of drug use and criminal behavior:
  - Auerhahn, 2004
  - Zarkin et al. (2005b)
  - Zarkin et al. (2011)

# Model Description (I)

- Discrete event simulation of 2004 U.S. state prison cohort ages 21 to 60 ( $N = 1.14$  million)
  - All start in prison
  - Follow into community until death or age 61
  - Monthly transitions
- Simulate:
  - Incarcerated & in community
  - Drug and alcohol use and treatment
  - Crime, arrest, & diversion or incarceration
  - Employment
  - Health care use

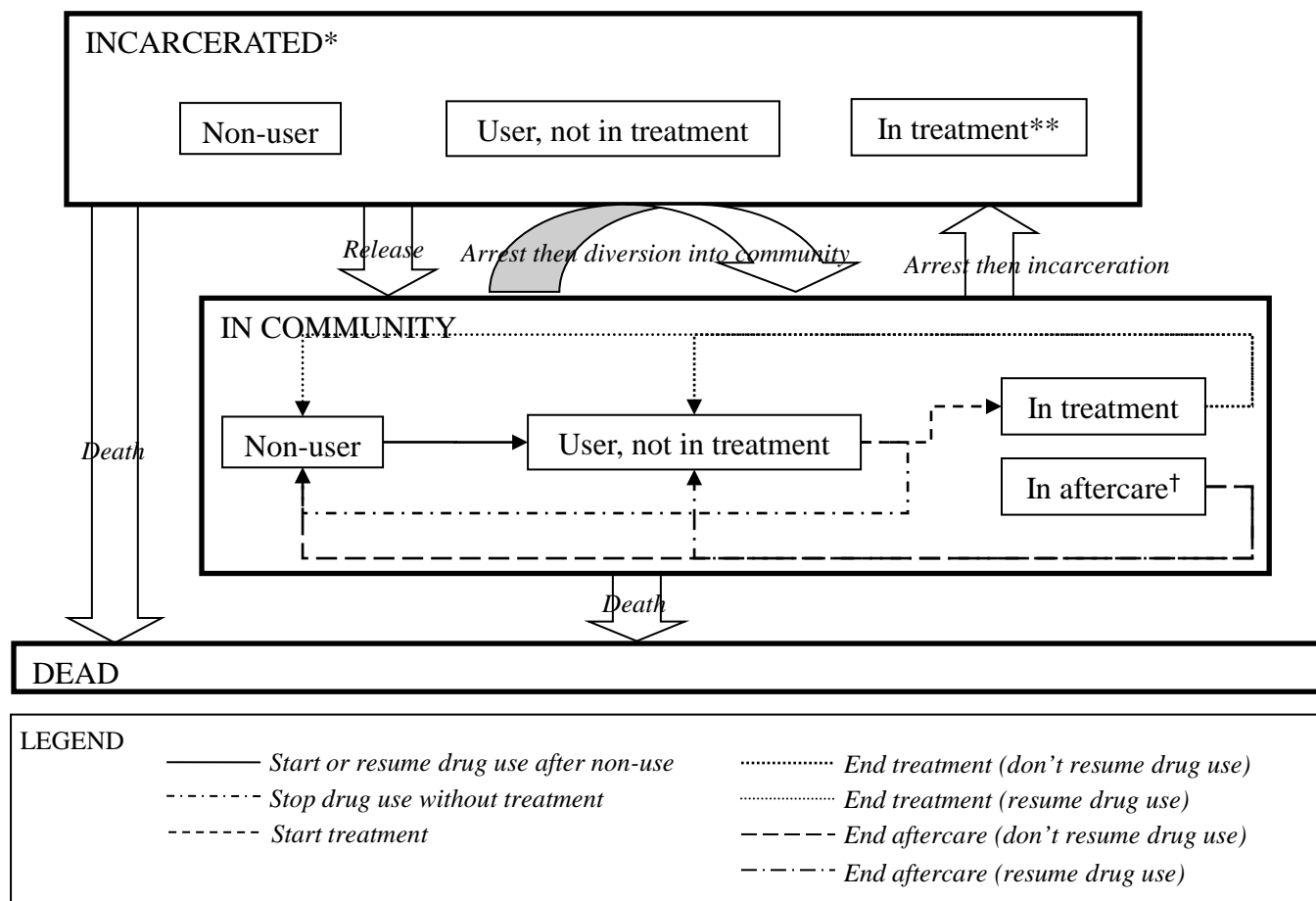
# Model Description (II)

- Main outcomes for cost-benefit analysis (2009\$, DPV)
  - Lifetime economic benefits = PV of lifetime earnings – (PV of crime victimization costs + PV of arrest, court, and incarceration costs + PV of health care costs)
  - Lifetime treatment costs = Prison and community-based treatment costs, including treatment during diversion
- Societal Net Benefits = Lifetime Economic Benefits – Lifetime Treatment Costs
- Criminal Justice System Costs = Arrest, court, & incarceration costs + prison treatment costs + diversion treatment costs + aftercare costs
  - Expressed as cost savings rather than net benefits
- Discount rate = 3%

# Model Description (III)

- Crime categories: violent, drug, and non-drug non-violent
- Substance abuse categories: alcohol abuse/dependence, other drug abuse, both alcohol and drug abuse, none
- Prison Treatment modalities: outpatient drug-free and residential
- Community-based treatment modalities: outpatient drug-free, residential, and methadone
- Transition probabilities and lengths of stay in treatment depend on:
  - age, race/ethnicity, gender, substance abuse status and history, opiate and injection drug use status and history, substance abuse treatment history, criminal status, criminal history, arrest and incarceration history, HIV/AIDS status, and employment status

# Model Description (IV)



# Data

- Model requires a large number of parameter values
  - Not all values are available in data sources
  
- Numerous sources. Examples:
  - Survey of Inmates in State Correctional Facilities (2004)
  - BJS Recidivism Data Set (1994-1997)
  - NESARC (2001-2005)
  - NSDUH (2002-2007)
  - TEDS (2005)
  - DATOS (1991-1994)
  - NTIES (1992-1997)
  - Peer-reviewed literature



# Policy Scenarios

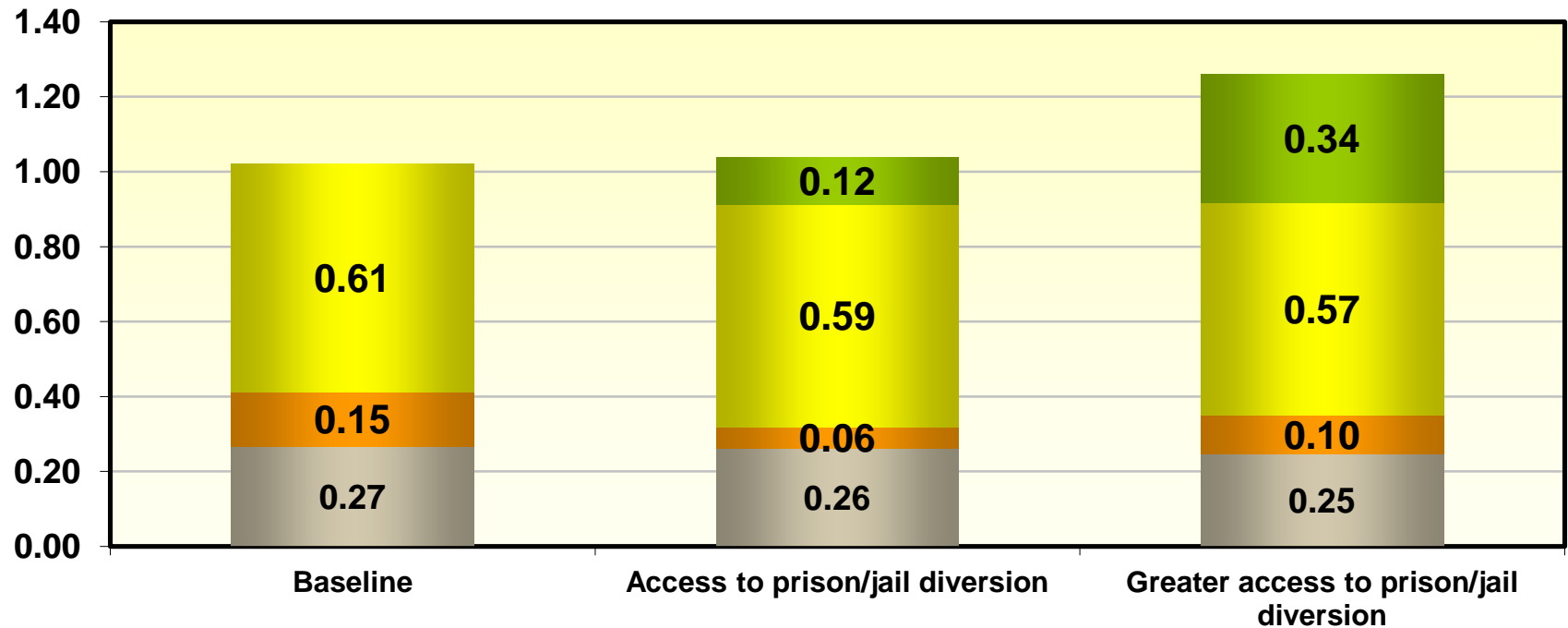
- Baseline
  - No diversion program
- Access to prison/jail diversion (10% of eligible)
  - If not diverted, go to jail or prison
  - If diverted, 100% probability of accessing treatment
  - Once diverted into treatment, all transition probabilities thereafter are the same as baseline
- Greater access to prison/jail diversion (40% of eligible)

# Selected Baseline Results

<b>% of abusers receiving community treatment</b>	<b>33.6%</b>
<b>% of cohort who committed a crime after release</b>	<b>74.1%</b>
<b>% of cohort who were reincarcerated</b>	<b>61.6%</b>
<b>Earnings (billions)</b>	<b>\$115.7</b>
<b>Crime victimization costs (billions)</b>	<b>\$66.9</b>
<b>Criminal justice costs (billions)</b>	<b>\$255.3</b>
<b>Health care costs (billions)</b>	<b>\$29.8</b>
<b>Treatment costs (billions)</b>	<b>\$1.1</b>

# Results (I)

**Total treatment costs for the 2004 US state prison cohort**

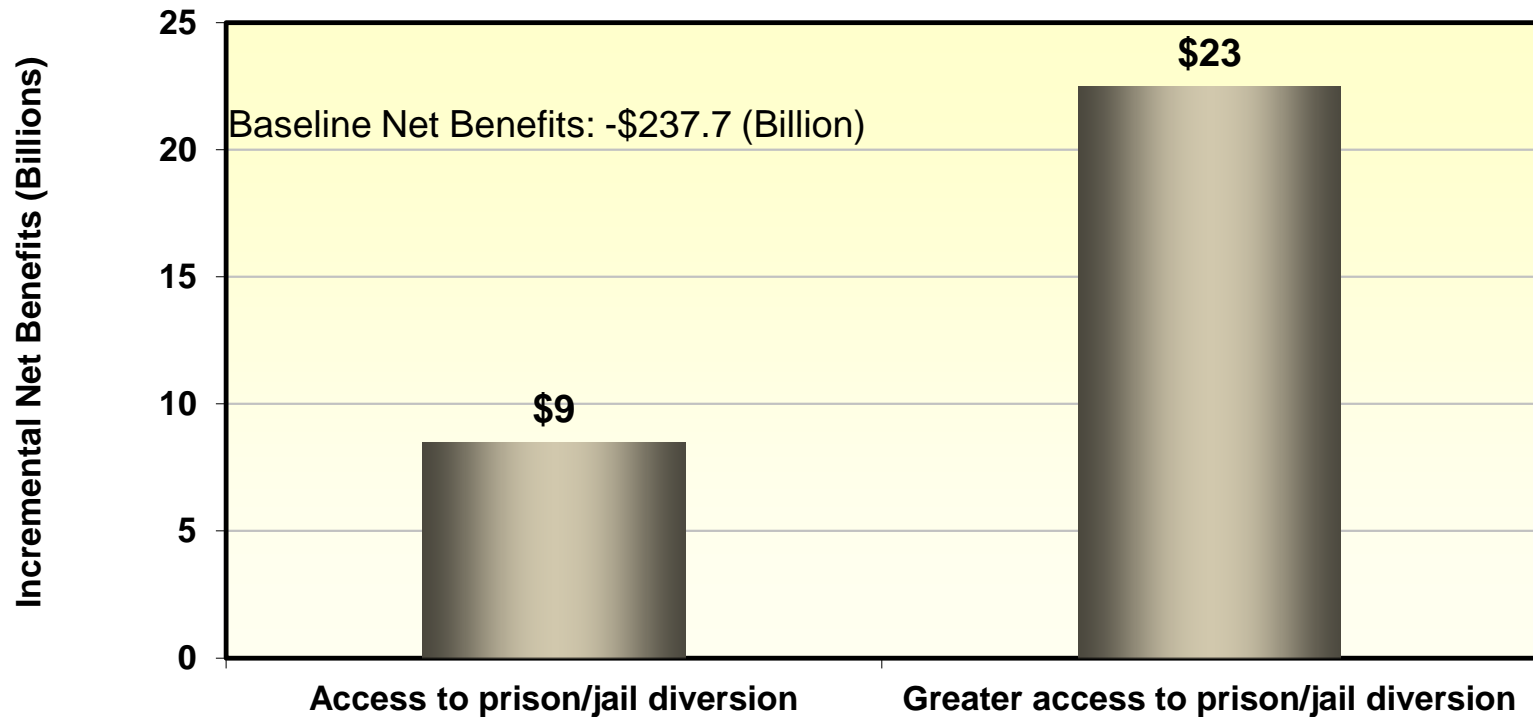


■ Prison Treatment Costs (Billions)  
■ Aftercare Costs (Billions)

■ Community Treatment Costs (Billions)  
■ Diversion Treatment Costs (Billions)

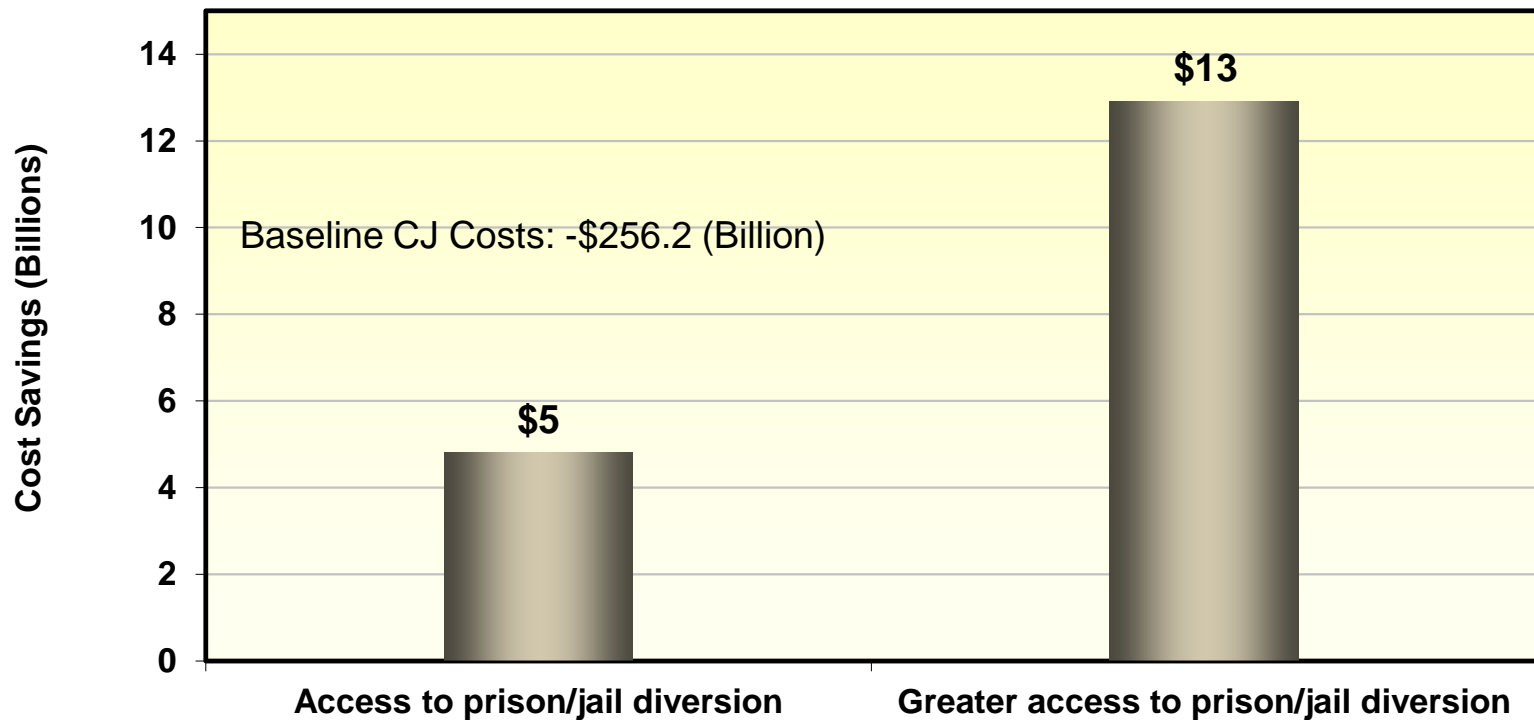
# Results (II)

Incremental net benefits for the 2004 US state prison cohort compared to baseline



# Results (III)

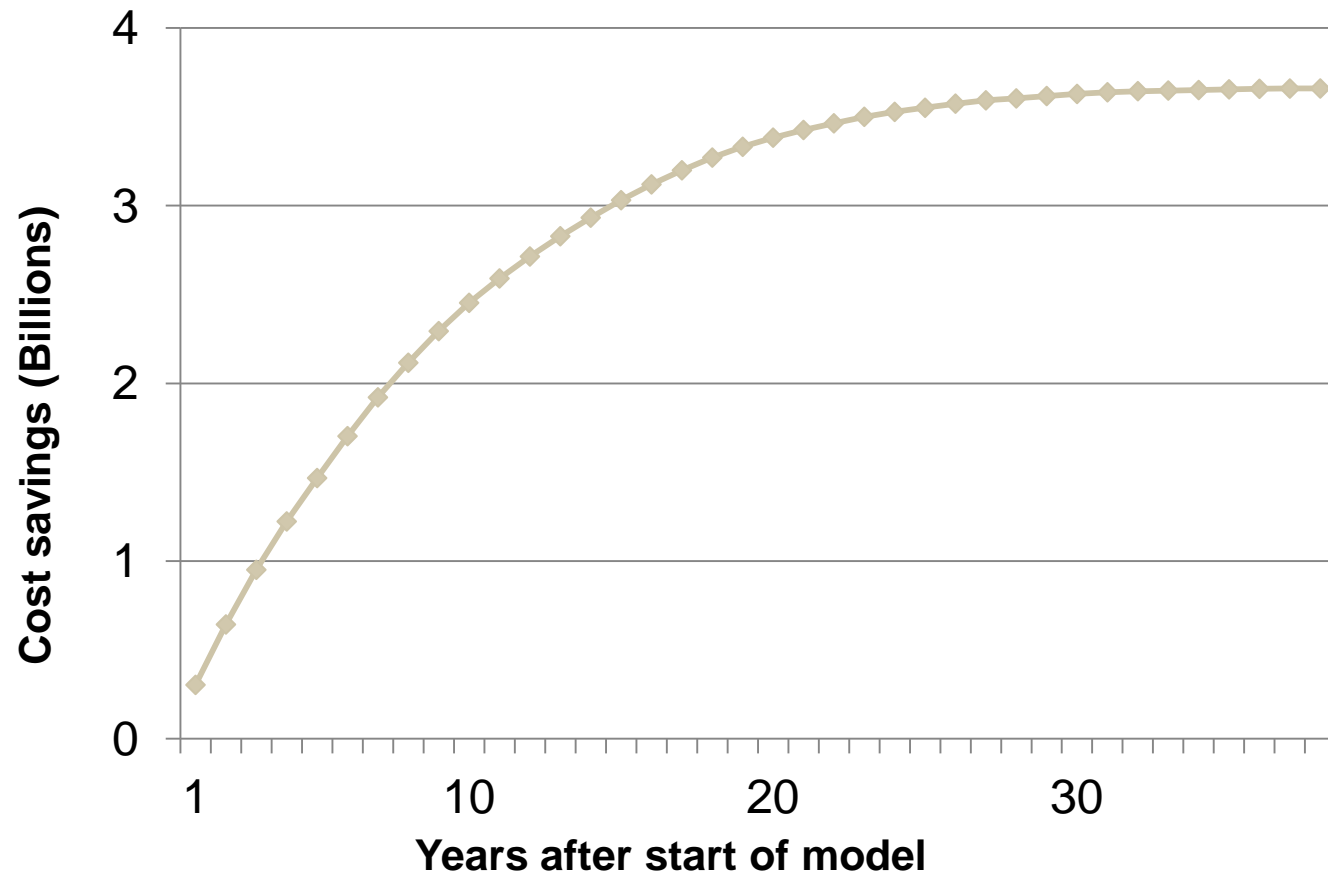
CJ system cost savings for the 2004 US state prison cohort compared to baseline



# Results (IV)

**Lifetime criminal justice costs savings for the 2004 US state prison cohort:**

**Access to diversion compared to baseline**



# Discussion

- Goal: help inform decisions about allocating treatment resources for state prisoners by building a lifetime simulation model
- From the societal and criminal justice perspective, diversion to community treatment generates positive net benefits
- Our model demonstrates the value of improving the treatment system for state prisoners

# Limitations

- Model makes many simplifying assumptions
  - Model does not take into account probation or parole systems
- Some parameters are not available in data sets or literature
  - We make educated guesses and then validate parameters